GOVERNMENT OF INDIA
SPACE
LOK SABHA

STARRED QUESTION NO:219
ANSWERED ON:30.11.2016
Weather Satellite
Suman Shri Balka

Will the Minister of SPACE be pleased to state:

(a) whether the Indian Space Research Organisation has successfully launched the country"s weather satellite INSAT-3DR, into a Geosynchronous Transfer Orbit (GTO) to provide variety of inputs essential for accurate weather forecasting; and
(b) if so, the details thereof?

Answer

THE MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PG & PENSIONS AND IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH):
(a) & (b) A Statement is laid on the Table of the House.

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STATEMENT LAID ON THE TABLE OF THE LOK SABHA IN REPLY TO STARRED QUESTION NO.219 REGARDING "WEATHER SATELLITE" ASKED BY SHRI SUMAN BALKA FOR ANSWER ON WEDNESDAY, NOVEMBER 30, 2016.

(a) Yes Madam. Indian Space Research Organisation (ISRO) has successfully launched Indian weather satellite 'INSAT-3DR' into a Geosynchronous Transfer Orbit (GTO) onboard India"s Geosynchronous Satellite Launch Vehicle 'GSLV-F05' (equipped with the indigenous Cryogenic Upper Stage) on September 08, 2016 from Satish Dhawan Space Centre, Sriharikota. After completing orbit raising operations, INSAT-3DR has been positioned in its designated slot of 74 degree East longitude in geostationary orbit.

(b) INSAT-3DR carries two meteorological payloads viz., 6 channel Imaging system and 19 channel Atmospheric sounder. It also carries a Data Relay Transponder (DRT) and Satellite Aided Search and Rescue (SA&R) payload.

The multi-spectral Imaging system generates images of the earth, every 30 minutes, in six wavelength bands (visible, shortwave infrared, middle infrared, water vapor and 2 bands in thermal infrared region) to derive information on various parameters, viz. outgoing long-wave radiation, quantitative precipitation estimation, sea surface temperature, snow cover, cloud motion winds, fog etc. The atmospheric sounder has eighteen narrow spectral channels in shortwave infrared, middle infrared and long wave infrared regions and one channel in the visible region. It provides information on vertical profiles of temperature, humidity and integrated ozone. These profiles are available for a selected region over Indian landmass every one hour and for the entire Indian Ocean Region every six hours. The data and geophysical products derived from INSAT-3DR are assimilated in numerical weather models for weather forecasting, including cyclone tracking.

INSAT-3DR together with INSAT-3D launched in 2013 provides images every 15 minutes.
DRT is used for receiving meteorological, hydrological and oceanographic data from remote, uninhabited locations over the coverage area from Data Collection Platforms (DCPs) and data is relayed back for down linking in extended C-Band.

SAS & R payload (operating in 406 MHz) picks up and relays the alert signals originating from the distress beacons of maritime, aviation and land based users to the Indian Mission Control Centre (INMCC) located at ISRO Telemetry, Tracking and Command Network (ISTRAC), Bangalore.

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